Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the specification:

Listing of Claims:

1-6. (Canceled)

7. (Withdrawn) A method for treating a disease resulting from a nonsense mutation in a gene comprising modulating the function of a eukaryotic peptidyl transferase center according to the method of claim 1.

8-34. (Canceled)

35. (Withdrawn) The method according to claim 1, wherein the drug suppresses a nonsense mutation.

36. (Withdrawn) The method according to claim 1, wherein the drug stabilizes a nonsense transcript.

37. (Withdrawn) The method according to claim 1, wherein the drug interacts with a protein encoded by a gene selected from the group consisting of *mof4-1*, *mof2-1*, *mof5-1* and human homologues thereof.

38. (Withdrawn) The method according to claim 1, wherein the drug is polypeptide of a ribosome binding protein, L3.

39. (Withdrawn) The method according to claim 1, wherein the drug is a vector comprising a gene encoding a protein involved in programmed ribosomal frameshifting and/or nonsense-mediated mRNA decay.

40. (Withdrawn) The method according to claim 39, wherein the gene is selected from the group consisting of *mof4-1*, *mof2-1*, *mof5-1* and human homologues thereof.

41. (Withdrawn) The method according to claim 39, wherein the vector is a viral or retroviral vector.

42. (Withdrawn) The method according to claim 1, wherein the drug is an expression vector comprising a nucleic acid hybridizable *in vivo* with an mRNA encoding a protein involved in programmed ribosomal frameshifting and/or nonsense-mediated mRNA decay, wherein a mutation of a gene encoding the protein changes the efficiency of ribosomal frameshifting.

43. (Withdrawn) The method according to claim 42, wherein the hybridizable nucleic acid is an antisense RNA specific for the mRNA, the antisense RNA being operatively associated with an expression control sequence.

44-47. (Canceled)

48. (Withdrawn) The method of claim 7, wherein the drug suppresses a nonsense mutation.

49. (Withdrawn) The method of claim 7, wherein the drug stabilizes a nonsense transcript.

50. (Withdrawn) The method of claim 7, wherein the disease is selected from the group consisting of nonspherocytic hemolytic anemia, β-thalassemia, hypercholesterolemia, pulmonary emphysema, adrenal hyperplasia, apolipoprotein C-II deficiency, hemophilia B, Bernard-Soulier syndrome, fructose intolerance, insulin resistance, maple syrup urine disease, thrombosis, goiter and hypothyroidism, chronic gradulomatous, Sandhoff disease,

vonWillebrand disease type III, gyrate atrophy, 1,25-dihydroxyvitamine D3 resistant rickets, spherocytosis, cystic fibrosis and spherocytosis.

51-53. (Canceled)

54. (Withdrawn) The method of claim 51, wherein the cells contain a gene carrying the nonsense mutation, which results in a disease.

55. (Withdrawn) The method of claim 54, wherein the disease is selected from the group consisting of nonspherocytic hemolytic anemia, β-thalassemia, hypercholesterolemia, pulmonary emphysema, adrenal hyperplasia, apolipoprotein C-II deficiency, hemophilia B, Bernard-Soulier syndrome, fructose intolerance, insulin resistance, maple syrup urine disease, thrombosis, goiter and hypothyroidism, chronic gradulomatous, Sandhoff disease, vonWillebrand disease type III, gyrate atrophy, 1,25-dihydroxyvitamine D3 resistant rickets, spherocytosis, cystic fibrosis and spherocytosis.

56. (Withdrawn) The method of claim 51, wherein the drug stabilizes a nonsense transcript.

57. (New) A method comprising treating eukaryotic infections caused by viruses using programmed -1 ribosomal frameshifting by exposing eukaryotic cells infected with a virus using said -1 ribosomal frameshifting to a compound selected from the group consisting of anisomycin and sparsomycin, wherein the compound modulates the efficiency of programmed -1 ribosomal frameshifting, thereby suppressing viral propagation in the cells.

58. (New) The method of claim 57, wherein the compound modulates programmed -1 ribosomal frameshifting in an RNA virus.

59. (New) The method of claim 57, wherein the viruses are selected from the group consisting of retroviruses, coronaviruses, paramyxoviruses, astroviruses and totiviruses.

60. (New) The method of claim 59, wherein the virus is HIV.

61. (New) The method of claim 57, wherein the compound is sparsomycin, which increases the efficiency of programmed -1 ribosomal frameshifting, thereby suppressing viral propagation.

62. (New) The method of claim 57, wherein the compound is anisomycin, which decreases the efficiency of programmed -1 ribosomal frameshifting, thereby suppressing viral propagation.

63. (New) The method of claim 61, wherein sparsomycin is used in an amount of about 0.52 μM to about 2.6 μM.

64. (New) The method of claim 62, wherein anisomycin is used in an amount of about 0.755 μM to about 3.8 μM.

65. (New) The method of claim 57, wherein the cells are exposed to anisomycin or sparsomycin at a concentration of 1 ng/ml or less.

66. (New) The method of claim 65, wherein said 1 ng/ml concentration is effective to decrease viral titers in the cells by about 70-80%.